

REMARKS

Reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-6 remain pending in the application.

Claims 1 and 4 are objected to because of the noted informalities. In response, claims 1 and 4 have been amended and accordingly this objection should be withdrawn.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph as being indefinite. In response, in claim 1, a and b have been defined. Regarding claims 4-6, the Examiner is correct that the steps are performed by the receiver. Accordingly, this rejection should be withdrawn.

Claims 1-6 are rejected under 35 U.S.C. 102 (e) as being anticipated by Ketchum (PG-PUB 2005/0265281). Applicant respectfully traverses this rejection.

The main difference between the present application and US Patent 6,956,907 of Ketchum, is that Ketchum does not disclose equation (2) described in the present patent application.

Ketchum discloses only the case of equation (1) of the present application. Ketchum only considers the case of a cooperative base station. Ketchum does not provide a solution to solve the problem of interferences as described and claimed in claim 1 of the present patent application, in particular the matrix of equation (2). The passage of the specification on page 5 comprises the matrix that is not disclosed in Ketchum.

In this context, in addition to the interference between the different users it is necessary to overcome interference between the sub-carriers. The model of the signal received at the receiver takes the following form:

$$\mathbf{y} = \begin{bmatrix} \mathbf{H}_1 & \cdots & \mathbf{H}_{N_{sp}}^1 \\ \vdots & \ddots & \vdots \\ \mathbf{H}_1^{N_{sp}} & \cdots & \mathbf{H}_{N_{sp}}^{N_{sp}} \end{bmatrix} \mathbf{a} + \mathbf{b} \quad (2)$$

where H_i^j ($j \neq i$) is the channel matrix representing the interference received on the sub-carrier j of the symbols borne by the sub-carrier i . The $N_u N_{sp} \times 1$ vector \mathbf{a} brings together all the symbols transmitted by the different vectors on all the sub-carriers. \mathbf{B} is a vector representing noise.

This matrix is not disclosed nor suggested by Ketchum where i is different than j , because Ketchum does not consider the case of interferences. Independent claim 4 recites the same formula. Accordingly, the anticipation rejection of independent claims 1 and 4 should be withdrawn. Claims 2-3 and 5-6 recite additional important limitations and should be allowable for the reasons discussed above with respect to claims 1 and 4 as well as on their own merits.

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

Early issuance of a Notice of Allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,
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